1) Which shopping procedure is faster? Yemeksepeti or Trendyol Go?

The scenario that a skilled user is ordering a "Big Mac menu" from "Yemeksepeti" and "Trendyol Go" is simulated using CogTool. Using the simulated models, it was examined how long it took a skilled user to complete this task on given these two platforms. As can be seen from the results in Figure 1, the user can complete this task in 30.9 seconds via the "Trendyol Go" application, while it can be completed in 28.1 seconds via "Yemeksepeti". So, considering these two models, the user gains a 2.8-seconds advantage on the "Yemeksepeti" platform compared to the "Trendyol Go" platform.

Tasks	serkankutuk_assig...
Trendyol Go	30.9 s
Yemeksepeti	28.1 s

Figure 1

2) Why is the faster procedure faster?

The most noticeable difference between the two applications is the number of screens required to perform the task, including scrolls and keyboard scenes. While this process can be performed on 16 different screens via "Trendyol Go", the same process can be performed on 9 screens via "Yemeksepeti". There is a pretty big difference between these two.

Another difference between the two applications can be explained by Fitt's Laws. According to Fitt's Laws, "the time taken to hit a target is a function of the size of the target and the distannce that has to be moved" (Dix, Finlay, Gregory, & Beale, 2004). Considering the "Trendyol Go" application, although the user's finger is close to the target button "Seç" when making the selection, the target button occupies a very small space compared to the overall size of the screen. Based on the data given by CogTool, clicking the "Seç" button on the b2 screen in the Trendyol application takes 0.197 seconds, 0.298 seconds in b4, 0.189 seconds in b5, 0.188 seconds in c1, 0.197 seconds in c2, 0.189 seconds in c3, 0.188 seconds in c4, 0.188 seconds in c5'. It also takes 0.189 seconds in average. In other words, while performing this task, the user needs to click on the "Seç" button 8 times in total and this process takes 1.635 seconds in total. Data shows that clicking the "Seç" button takes 0.204 seconds on average. Additionally, clicking

the "Seç" button on the b4 screen takes more time than the others. The reason for this can be explained by the fact that this time takes longer when the item to be selected is lower down, that is, when the "Seç" button must be clicked after the "scrolling" operation is performed.

According to Gestalt Law, continuity should be emphasized to make disconnected elements be seen as a part of a continuous whole (Benyon, Part II, Techniques for designing UX, 2019). This law is taken into consideration in both applications. Considering that the items to be chosen come one after another, it is possible to say that this proposition is taken into account in both of them. In addition, not only were the items related to each other grouped under the same roof, but attention was also paid to the number of items presented in each list. By looking at the groupings and number of items, the same logic is followed by both applications. For this reason, it does not seem fatally significant to make improvements in chunking and the number of items, presented. Moreover, interface design should facilitate both recognition and the ability to recall information (Benyon, Chapter 21, Memory and attention, 2019). This is done by positioning the "Select" button in the same place on all screens in "Trendyol Go", and by the chunking mechanism in "Yemeksepeti".

The last actions taken by the user upon completion of the task are seen in Figure 2. While the longer process at the top belongs to the "Trendyol Go" application, the shorter process below belongs to the "Yemeksepeti" application.

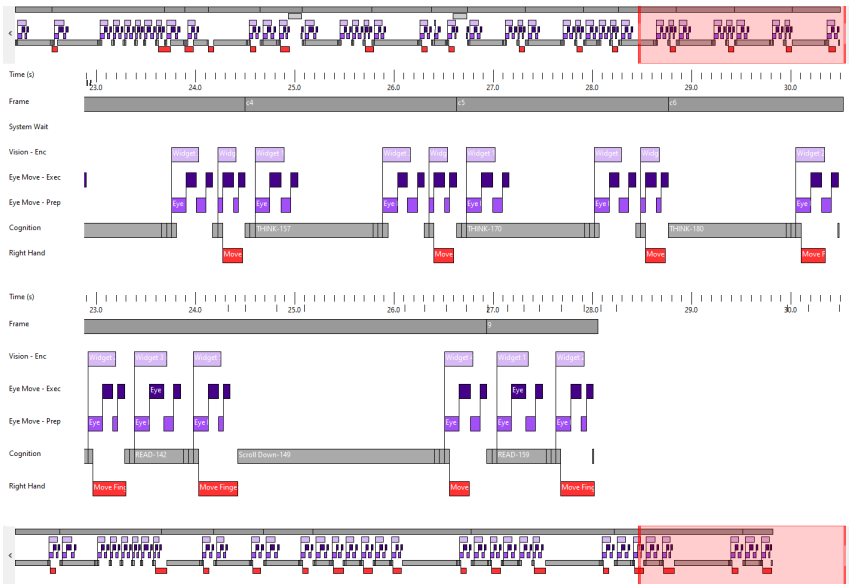

Figure 2

3) How can you make the slower procedure faster? How much time can a user save with this change? Show it by modeling the revised one with CogTool.

To make the slow model, "Trendyol Go", faster, Fitt's Law can be used to increase the size of the "Select" button, which must be pressed 8 times in total by the user. Considering the frequency of use of the button, increasing the size of the "Seç" button will save the user more time.

When these improvements were made, it was observed that the user completed the same task in 30.6 seconds. When the "Seç" button is enlarged, the total time is reduced to 0.189 in b2, 0.293 in b3, 0.187 in b5, 0.185 in c1, 0.194 in c2, 0.186 in c3, 0.186 in c4. It was observed that it decreased to 0.186 in C5 and to 0.187 in c5. As a result of calculations made by CogTool by applying Fitt's Law, it can be said that the user saved 0.3 seconds in total.

The revised model and applied changes can be seen in a different file which is zipped and named "revision".

References

Benyon, D. (2019). Chapter 21, Memory and attention. In D. Benyon, *Designing User Experience, A guide to HCI, UX and interaction design, 4th Edition* (pp. 504-526). Pearson.

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